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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,590	09/08/2006	Paolo Minzioni	04772.0034	2265

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
DOAN, JENNIFER	
ART UNIT	**PAPER NUMBER**
2874	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,590	MINZIONI ET AL.	
	Examiner	Art Unit	
	Jennifer Doan	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *012306 & 120806*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The prior art documents submitted by applicant in the Information Disclosure Statements filed on 01/23/06 and 12/08/06, have all been considered and made of record (note the attached copy of form PTO-1449).

Drawings

2. The drawings, filed on 01/23/06, are accepted.

Specification

3. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 23-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turitsyn et al. (EP 1263155).

With respect to claims 23-27, 33, 35 and 43, Turitsyn et al. (figure 10) disclose a method and an apparatus of an optical communication line comprising a first optical connection with accumulated chromatic dispersion at least partially compensated and including a first optical waveguide portion (12) directly connectable to an output of a first processing station of electromagnetic radiation at a pre-established wavelength (see figure 10); and a second optical waveguide portion (14) coupled to the first portion (12); an amplifying station (16) provided with a first input directly connected to the second portion (14) in order to receive the radiation and with a first output for amplified radiation; a second optical connection with at least partially compensated accumulated dispersion and including a third optical waveguide portion (14) directly connected to the first output; a fourth optical waveguide portion (12) coupled to the third portion and

directly connectable to a second input of a second processing station, the first and third portions being associated to respective first order chromatic dispersions having opposite signs (see paragraphs (57) and [0012]), at least the first and third portions being associated to respective first order chromatic dispersions having, at the pre-established wavelength; wherein the first processing station is an information signal transmission station including at least one source of radiation at a wavelength suitable for propagation in optical fiber (see paragraph [0117]).

With respect to claims 42 and 44, Turitsyn et al. (figure 10) disclose a method and an apparatus of a communication system comprising a first processing station provided with an output for electromagnetic radiation having a pre-established wavelength; an amplifying station (16) provided with a first input connected to the first station to receive the radiation and with a first output for amplified radiation (see figure 10); a first optical connection having at least partially compensated accumulated chromatic dispersion and including at least a first portion of optical waveguide (12) directly connected to said output and a second portion of optical waveguide directly connected to the first input; a second optical connection having at least partially compensated accumulated chromatic dispersion and including at least a third portion of optical waveguide (14) directly connected to the first output and a fourth portion of optical waveguide directly connectable to a second processing station, the first and third portions (12, 14) being associated to respective first order chromatic dispersions of opposite signs (see paragraphs (57) and [0012]), at least the first and third portions of

fiber being associated to respective first order chromatic dispersions (see paragraph [0117]).

Turitsyn et al. do not explicitly disclose a corresponding absolute value lower than or equal to 13 ps2/Km or lower than 10 ps2/km or greater than 0.5 ps2/km or greater than 1 ps2/km.

However, the corresponding absolute values lower than or equal to 13 ps2/Km or lower than 10 ps2/km or greater than 0.5 ps2/km or greater than 1 ps2/km are considered to be obvious. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Turitsyn's device with the absolute values as claimed for the purpose of obtaining higher efficiency of optical signal transmission, and it also has been held that discovering an optimum value of a result effective variable involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the value claimed. *In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)* (see MPEP § 2144.05).

With respect to claim 28, Turitsyn et al. (figure 10) disclose the communication line, wherein the waveguide portions are substantially formed by optical fibers (12, 14).

With respect to claim 29, Turitsyn et al. (figure 10) disclose the communication line, wherein the first station is such as to send on the first portion radiation having a first power value and the amplifying station (16) is such as to send on the third portion amplified radiation having a second power value, the first and the third portions being such that the product of a non linearity coefficient associated to the first portion and the

first power value is substantially equal to the product of a nonlinearity coefficient associated to the third portion and said second power value (see paragraph [0121]).

With respect to claims 30 and 31, Turitsyn et al. substantially disclose all the limitations of the claimed invention except the waveguide of the first portion and the third portion present effective areas of a value greater than or equal to 40 μm2 or 50μm2.

However, the waveguide of the first portion and the third portion present effective areas of a value greater than or equal to 40 μm2 or 50μm2 are also considered to be obvious. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Turitsyn's device to have the waveguide of the first portion and the third portion with the effective area values as claimed for the purpose of obtaining higher efficiency of optical signal transmission, and it also has been held that discovering an optimum value of a result effective variable involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the value claimed. *In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)* (see MPEP § 2144.05).

With respect to claim 32, Turitsyn et al. disclose the communication line, wherein the first and second optical connections present a substantially zero accumulated dispersion (see paragraph [0125]).

With respect to claim 34, Turitsyn et al. (figure 10) disclose the communication line, wherein the first and second optical connections include single mode optical fibers

(12, 14).

With respect to claim 36, Turitsyn et al. (figure 10) disclose the communication line, wherein the second processing station is an information signal receiving station (see figure 10).

With respect to claim 37, Turitsyn et al. disclose the communication line, wherein the transmission station is such as to generate optical pulse signals (see paragraph (57)).

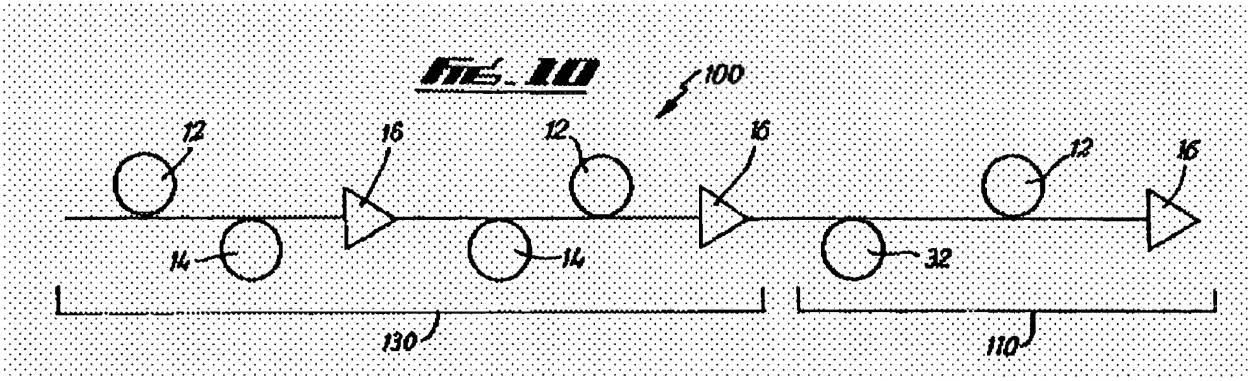
With respect to claim 38, Turitsyn et al. (figure 10) disclose the communication line, wherein the first processing station is a radiation amplifying station (16) and the second processing station is a further radiation amplifying station (see figure 10).

With respect to claims 39 and 40, Turitsyn et al. substantially disclose all the limitations of the claimed invention except the first and second optical connections have a length greater than or equal to 40 km 80 km.

However, the first and second optical connections having a length greater than or equal to 40 km 80 km are also considered to be obvious. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Turitsyn's device to have the first and second optical connections with the length values as claimed for the purpose of obtaining higher efficiency of optical signal transmission, and it also has been held that discovering an optimum value of a result effective variable involves only routine skill in the art and it is noted that the

applicant does not disclose criticality in the value claimed. *In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)* (see MPEP § 2144.05).

With respect to claim 41, Turitsyn et al. disclose the communication line, wherein the first and second optical connections present substantially zero accumulated dispersion slope (see paragraph [0125]).



Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JD

March 30, 2007

Jennifer Doan

JENNIFER DOAN
PRIMARY EXAMINER